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The Current approach of Urban Design and its Implications for Sustainable Urban Development

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Abstract

Urban Design derived as a separate profession after the determinations of the 1956 international conference about the future of cities that took place in Harvard's Graduate School. City beautification was the fundamental purpose of urban design at the time it was introduced as a separate profession. Over time, the scope and objectives of the urban design have changed. Today Urban design plays a key role in the creation of sustainable communities in terms of the "triple bottom line," that is the three dimensions of life – economic, e.g.well-paid jobs, social e.g. good schools and sports facilities and environmental e.g. clear air, clean rivers, beautiful places to live, work and play. So today urban design seeks to enhance the life of the city and its inhabitants in socio-economic & environmental terms.

However the current approach to urban design is mainly top down, i.e., generally the architects or the planners design the urban environment and at the implementation stage the community may have some involvement. There are serious criticisms of this approach as it may not touch the "ground" community level and therefore there is a serious risk these projects will fail to create sustainable environments.

The criticism is that the experts in development simply comply with requirements of funding agencies in the development and this top down process may alienate local community members and fail to capture locally significant factors. Through a re-examination of the literature on this topic this paper argues that a proper bottom up approach will help to achieve better performance against the sustainability indicators. It also explores the strengths and weaknesses in the classic top down approach to urban development which provides early high level planning solutions, whereas although a bottom-up approach can make more sense because the professionals have a strong base of understanding of the place with the help of effective participation from the concerned stakeholders it takes more time and commitment from all parties involved. Therefore this paper explores the

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gap between the current top down approach and a bottom up approach in urban design towards the creation sustainable urban environments.

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*Keywords:*Sustainable Urban Development; Urban Design; Top- down approach; Bottom-Up approach; Community Involvement

1. Introduction

Urban design is the art of making places in an urban context which involves designing groups of buildings and the spaces and landscapes between them and further the creation of frameworks for successful development (Urban Design Group, 2011). Even though there were some instances where urban design principles had been practiced in ancient civilisation, the discipline was introduced as a separate profession in 1950's after the determinations of 1956 international conference about the future of cities which took place in Harvard's Graduate School. Regeneration of cities after the 2nd world war was urgently required. But at that time the body of knowledge that existed in architecture and planning was not strong enough to deliver successful urban regeneration projects. Therefore to bridge this gap a separate discipline called urban design was emerged(Krieger, 2004).

City beautification was the fundamental purpose of urban design at the time it was introduced as a separate profession. Over time, the scope and objectives of the urban design have changed and currently urban design plays a vital role in city development. Today urban design functions at the crossroads of architecture, landscape architecture and city planning. It has become a collaborative discipline functioning with the other disciplines to create three-dimensional forms and spaces for people that function effectively. Therefore urban design seeks to enhance the life of the city and its inhabitants in socio-economic & environmental terms. (Wall & Waterman, 2010).

The concept of sustainability has become integrated with urban design. Today the key task of the urban designer is to delivery sustainable places in terms of the "triple bottom line" that is the three dimensions of life – economic, e.g well-paid jobs, social e.g good schools and sports facilities and environmental e.g. clear air, clean rivers, beautiful places to live, work and play and as Ritchie and Thomas (2009) describe sustainable urban design is vital for this century. Achieving sustainability in urban design will provide environmental quality, economic & social benefits.

However the current approach adopted in Urban Design is often seen as too top down and there are serious concerns & criticisms over this. Roy and Ganguly (2009) describe that the classic approach in urban development (Top down) provides early and high level planning, but a bottom-up approach makes more sense as the professionals already have a base which need to be developed and that this understanding gets stronger with the help of some participation from the concerned stakeholders.

Therefore this paper seeks to explore the defects of current top down and bottom up approaches and the possible implications for sustainable development with the view of informing a better balanced bottom up approach for sustainable urban design.

2. Methodology& Objectives

The scope of this paper is about exploring the research gap in the urban design field. It is based on current literature from various sources such as journal papers, conference papers and books. The methodology takes the form of a literature review and the literature which is explored is not more than 10-15 years old and this supports the validity of the research approach. The primary objective is to identify the main strengths and weaknesses of the current approach and to identify those issues which an effective bottom up approach can help to resolve.

3. The literature review

3.1. Urban Design & Sustainable Development

This section seeks to identify the connection between urban design & sustainable development. In the context of 90's Cuesta, Sarris, and Signoretta (1999)state that the issue of sustainable development is the social foundation of urban design today.

Walton et al. (2007) describe urban design as a discipline to create sustainable communities (figure 1) and sustainability is not merely environmental sustainability but embraces economic environmental & social aspects as well. The authors present the EGAN wheel (Egan, 2004) as a good framework to create sustainable communities in urban design.

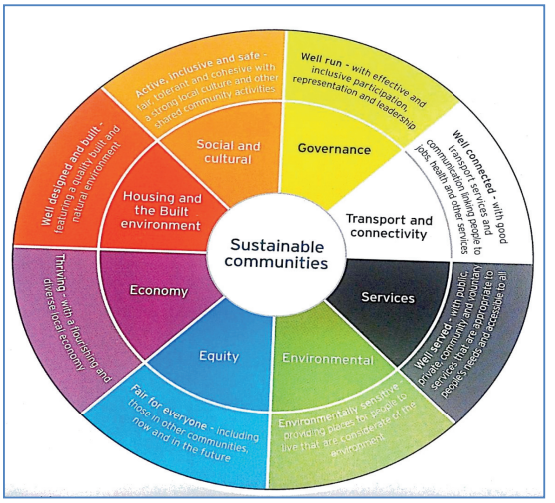

Fig. 1: EGEN Wheel, Source Urban Design Compendium 2, (Walton et al., 2007)

A key finding of the Egan (2004) is that sustainable communities do not come by chance and we must work to create them and the report introduces key components of sustainable communities as represented in figure 1. Over the last 10-15 years many other writers, e.g. from Bentevegna et al (2002), to Farr (2012)all discuss that urban design and development is about creating sustainability.

When these and other discussions on urban design and sustainable development are examined the common phase which can be traced is that the Urban Design is all about creating sustainable communities in terms of socio-economic and environmental aspects.

3.2. Current Approach to Urban Design

As the Egan report has argued the approach or process used in urban design plays a vital role in delivering sustainable communities. This section seeks to explore different sources where the approach to urban design and its key components and stages are identified.

Moughtin (2003) describes the urban design process in line with the RIBA practice and management hand book of the time. Accordingly for him there are four main phases in the design process which are as follows,

- Phase 1 *Assimilation*: the accumulation of general information and information specially related to the problem
- Phase 2 *General Study*: the investigation of the nature of the problem: the investigation of possible solutions
- Phase 3 *Development*: the development of one or more solutions
- Phase 4 *Communication*: The communication of the chosen solution to the client

This high level process model indicates that the current approach of the time - generally top down, i.e. basically the architect, planner or the urban designer is appointed to identify the problem situation and thereafter analysis is done and based on that strategies are generated. And once a design is generated, at the latter stage of the process communication is made in order to consult the client or the stakeholders. In reality most designers are aware that the practical process is much more iterative, nevertheless many similar linear sequential models are espoused.
Roberts and Greed (2001) discuss about the urban design process in four sequential stages. These sequential stages are named as the framework for urban design,

- Defining & Analyzing the problem
- Developing a rationale
- Summary of development opportunities and constraints
- Conceptualizing and evaluating urban design options

At the first stage under defining the problem, the planning or the designing team appraise the study area by conducting surveys on the urban form and by activity analysis, thereafter the team develop a rational based on the analysis and thereafter the summary of development opportunities and constraints are developed. And in the latter stage area strategies and urban design options are evaluated by the team of members and finalize the urban design strategy to the area. This high level urban design process model is stiff and it directly indicates it is a totally a top-down approach. The community involvement in this design process is not particularly mentioned as an important step in the urban design process.
From a landmark project exploring the sustainable 24hour city Boyko, Cooper, Davey, and Wootton (2006) identified a more recent development of the urban design process which has considered stakeholder engagement. There are four main steps in this process including four transitional stages. The key four stages in this process are as follows,
Stage 1: creating teams, appraising the situation and forming goals.
Stage 2: designing and developing.
Stage 3: evaluating, selecting and creating a plan.
Stage 4: implementing, monitoring and following up.
Between each of these stages there are transitional stages which allow the stakeholders to be engaged and to shape the findings of each stage. For example after appraising the area and after forming the goals for the design of the area that are to be used by the professional actors there is a transitional stage where the stakeholders are consulted and are engaged to shape the goals to be adopted. Likewise in each and every stage the transitional stage has been allocated for stakeholder engagement. From this emerges an urban design process model that has given some importance to the community engagement aspect, however even this process model still follows a top down model as in each stage the professional actors still maintain their dominant lead over the other stakeholders. However in this kind of top down process model there is a hidden danger as Larice and Macdonald (2007) argue, which is that in this kind of process model the community consultation can lead towards manipulation of local opinion rather than genuine participation because the agenda has already been framed and developed by the professional actors.

The Department of Infrastructure & Regional Development Australia (2013) introduces its own urban design process model as a part of the urban design protocol for Australian cities. In this model four common themes are introduced under different sub themes as follows,

- Context

Strategic planning- a project should work within the context of the strategic planning framework.

- Engagement

Relevant stakeholders, including the broader community, should be able to provide input and feedback at key stages of the process. They can help to develop the vision, review design options and provide feedback e.g. during a public exhibition.

- Excellence through: Leadership, Collaboration and teamwork, Integrated processes, Design culture
- Custodianship- Ensure that systems are in place for on-going operations and management, to ensure the place is well-maintained and sustainable in the long term.

This urban design process model begins to integrate the professional actors with the stakeholders and ‘Engagement’

is considered as the main means to consult stakeholders and the community at different stages so raising in importance the community vision for the area. This indicates that even in this process model which has many good features from the perspective of the community there is still a risk that it can be framed entirely by the professional actors because up to the vision development stage of the design process the professional actors play the dominant role.

Walton et al. (2007) describe that creating successful neighbourhoods depends on understanding the human as well as the physical context of place and appreciating the dynamics of the local community, including local attitudes, initiatives history and customs. Therefore Walton et al. (2007) suggest that opportunities should be provided for people to participate in identifying issues and debating options from the earliest stages. People should become involved at the point when they have the potential to make a difference. However at the same time (Walton et al., 2007) describe a case study on community engagement at Ashford, where the community was consulted and engaged to develop range of scenarios against a vision. This indicates that in this project the urban design process still relies to a considerable extent on the top down analysis and the vision development already done by the professional actors at the point when the community is consulted.

Another good example of the current approach to urban design and planning can be found in the Asian context from India. Roy and Ganguly (2009)analyse a case study which has given prominence to stakeholder engagement. The case study is called 'Participatory Planning Experience in West Bengal' and in this process model three major stages were introduced, with 3-4 sub steps in each. According to this process model at the first and the second stages the urban area analysis and the development options are generated by the professional actors, and thereafter at the third stage the community was consulted and engaged in order to shape and finalize the development options. Therefore even though the authors introduce this case study as an attempt to integrate top down &bottom up approaches, this still stands as a more high level process model which indicates continuation of the top down approach to urban design.

Effective participation is important because it is identified as a key principle of sustainable development at the earth Summit in Rio in 1992. Principle 10 states that "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy shall be provided." From the limited exploration of the literature above it can be seen that participation has become an accepted and important feature in urban design but there remain concerns regarding the efficacy in enabling "concerned citizens" to really influence decision making and therefore of the design outcomes.

4. The current approach & its implications on sustainable development

As discussed in the previous section the predominant urban design process model is a high level, top down approach. Therefore this section seeks to identify and analyse the prospects & constraints of the current approach in order to identify its implications for effective community engagement and therefore for sustainable development. Therefore an analysis of the strengths and weaknesses follows exploring in this context,

Strengths

- Top down approach gives government planners & designers, feeling of control and efficiency (Cooksey & Kikula, 2005)
- Development options or the proposals are already prepared, therefore it's easy to focus at the community consultation process (Larice & Macdonald, 2007)
- Less time consuming for the development process as the whole process is predefined and controlled by the professional actors (Larice & Macdonald, 2007)
- More effective use of resources by using professional expertise to mobilise, co-ordinate and interpret community options (Larice & Macdonald, 2007)

- Donor agencies are more keen to invest on the projects which has a top down approach as the budgets can be maintained with the pre-established targets and timetables (Cooksey & Kikula, 2005)

Weaknesses

- May alienate local community members and fail to capture locally significant factors(Fraser, Dougill, Mabee, Reed, & McAlpine, 2006)
- Classic Top-Down approach provides early and high level planning which may not touch the ground requirements ((Roy & Ganguly, 2009)
- Blanket policy from the top down to be used across all locations at all times is not suitable in urban design because urban design solutions should be distinctive to each specific context in which it's implemented (Commission for Architecture & Built Environment, 2000)
- Danger of this approach is as the agenda is already set up it may lead to manipulation of local opinion rather than genuine community participation (Carmona, Heath, Oc, & Tiesdell, 2003)
- Local stakeholders often have particular insight into the specific urban design issues affecting a given context and therefore urban design solutions developed thorough a top-down approach may not be accepted by the stakeholders (Commission for Architecture & Built Environment, 2000)
- Cooksey and Kikula (2005) describe several weaknesses of this top-down approach summarized as follows,
    - Planning decisions are **centrally made** by organizations that are remote from the project area. Participation of stakeholders is only limited to provision of data or approving and adhering to what has already been planned.
    - Planners and bureaucrats proceed as if they were writing on a **clean slate** and possessing all the knowledge for improving people's lives. In reality, they are making interventions in a well-established community social system, which has survived over generations of struggles and interactions with the local environment.
    - Plans are generally based on quantitative data or numerical estimations collected through **rapid diagnostic feasibility studies or project formulation missions**.
    - Planning (as well as implementation) follow a pre-conceived project design (a master plan type), fixed time schedule leading to rigid interventions having no respect and consideration of environmental changes, local initiatives and development choices.
    - The approach follows a predetermined project design usually based on assumptions of uniformity and cost-effectiveness regardless of area specific conditions where the project is implemented.
    - Top down planning is usually based on poor assumptions of social and environmental behaviour often proven to be incorrect as locality and social formations differ.

The analysis indicates that there are many more weaknesses than strengths in the current top down process model.

As described in section 3.1 above sustainable urban design is about creating high quality places for people in terms of the "triple bottom line". Therefore to create sustainable environments the professional actors in urban design need to diagnose the urban environment properly and bring forward design solutions which match the needs and aspirations of the community. So the question must be posed – how can they do that without the full engagement of the community in all aspects of the design process, particularly the urban analysis and vision making? Without a deep understanding of the place – the genius loci - designers tend to begin with a "clean sheet" and risk bringing forward development strategies that do not link the past, present and the future effectively through the design solution. Accordingly as discovered in this analysis using a top down approach may result in the real problem roots and local significant factors being overlooked. When these local significant factors and the problem roots are not clearly identified in the urban design solutions developed by the professional actors working primarily alone there is every chance they will not fulfil the needs and the aspirations of the local communities. And it can be argued that a development solution which does not fulfil community needs and aspirations will not be accepted by the local communities. When communities do not accept the design solution it will not solve the current problems and issues of the area and it may create an additional issue for the area and the community may value the buildings and landscape less and so have less commitment to the area– the community may be less sustainable.

4.1. The need of a proper grass root level urban design process model

To overcome the constraints identified above, it is necessary to develop a proper bottom up approach in order to deliver sustainable communities.

As already mentioned Roy and Ganguly (2009) identified that a bottom up approach in design will make more sense as the community understand their needs and aspirations rather than the professional actors. Therefore involvement of the community from the beginning to the end of the project will help to deliver more sustainable solutions.

Fraser et al. (2006)describe a proper bottom up approach where the community can engage actively in the development process will capture locally significant factors and it will help to achieve the sustainability indicators. The authors have described many logical reasons on why we should move to a proper bottom up approach. Some of the key points on that are as follows,

- Bottom-up approach provides a comprehensive assessment of local social, environmental, and economic issues which helps to diagnose the local context in a detailed manner rather than relying on only on quantitative facts and figures.
- It fills the gap between the problems identified by the planners and actual problems insist in the area, also Provides increased sensitivity to local issues
- Solutions generated through a bottom-up approach are grounded to the locality therefore it addresses the local issues and bring sustainable solutions
- Bottom-up approach increase community capacity to manage the environment, therefore the community is empowered

Moughtin (2003) describes Millgate project implemented in Nottinghamshire by the Nottingham Community & Housing Association. This project adopted the fundamental theories of sustainable development and permaculture. The community was allowed to design their own housing structures by themselves. The impetus for this project came from Mark Vidal Hall, the vicar of Chellaston Derbyshire who argued that the methods used by the architects and planners to create communities were quite wrong. His criticism was that the professionals involved in the building industry put more effort into he physical structure rather than being concerned about the requirements of the community. In this project community undertook many responsibilities in order to complete the project successfully from the beginning to end and they felt that the project belongs to them and were not forcefully implemented from the "top".

Reed (2006) describes a whole system approach to achieve real sustainability beyond the so called "green design" we need to shift our mental model to the whole system thinking and in this he emphasises the importance of having a proper bottom up approach to understand the place. This approach has been referred to as regenerative design because it seeks to restore the physical, social and environmental systems to "good health".

All the above literature suggests that the key characteristic of a proper bottom up approach is the community consultation and involvement from the beginning of the project to the end of the project. This indicates the importance of consulting the community from the urban analysis stage, as early involvement of community helps to properly diagnose the area. Likewise in a proper bottom up approach the community consultation should continue through all the stages from the urban analysis stage to the strategy generation and until the project is being implemented.

5. Conclusion

The primary objective of this paper was to explore the current approach to urban design and to identify its constraints in the context of creating sustainable communities. Accordingly the analysis shows that there is still the need of a proper bottom up approach which actually identifies the community needs and aspirations and delivers really sustainable solutions. Accordingly the authors currently seek to develop a proper bottom up approach for urban design via an on-going PhD project in this area of research. The following figure summarises the hypothesis that the research has developed.

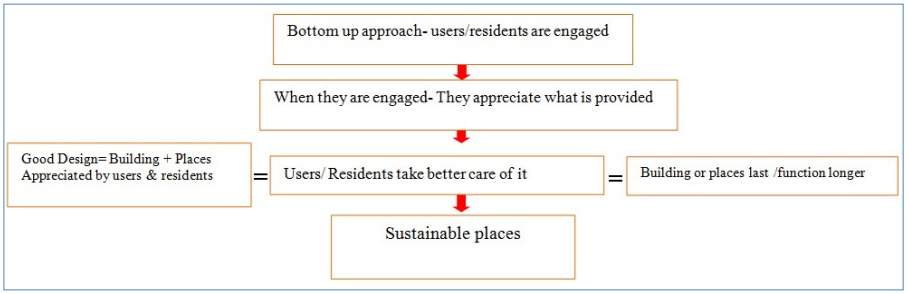

Figure 2- Summary of the Hypothesis

At the end of the doctoral research the researcher will contribute to the knowledge by developing a new bottom up approach for urban design to deliver sustainable urban communities.

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